

# **Arteriosclerosis**

Volume 7, Number 1, January/February 1987

## **GEORGE LYMAN DUFF MEMORIAL LECTURE**

- 1 Personality, Gender, and Coronary Artery Atherosclerosis of Monkeys  
**Thomas B. Clarkson**

## **ARTICLES**

- 9 Fatty Streak Initiation in Watanabe Heritable Hyperlipemic and Comparably Hypercholesterolemic Fat-Fed Rabbits  
**Michael E. Rosenfeld, Toyohiro Tsukada, Allen M. Gown, and Russell Ross**
- 24 Fatty Streak Expansion and Maturation in Watanabe Heritable Hyperlipemic and Comparably Hypercholesterolemic Fat-Fed Rabbits  
**Michael E. Rosenfeld, Toyohiro Tsukada, Alan Chait, Edwin L. Bierman, Allen M. Gown, and Russell Ross**
- 35 Very Low Density Lipoproteins Stimulate Cholesteryl Ester Formation in U937 Macrophages. Heterogeneity and Biologic Variation among Normal Humans  
**Frank M. Sacks and Jan L. Breslow**
- 47 Differential Distribution of von Willebrand Factor in Endothelial Cells. Comparison between Normal Pigs and Pigs with von Willebrand Disease  
**Qing Y. Wu, Ludovic Drouet, Jean L. Carrier, Chantal Rothschild, Madeleine Berard, Christine Roualt, Jacques P. Caen, and Dominique Meyer**
- 55 Superoxide Initiates Oxidation of Low Density Lipoprotein by Human Monocytes  
**Kazuko Hiramatsu, Henry Rosen, Jay W. Heinecke, Gertrud Wolfbauer, and Alan Chait**
- 61 Apolipoprotein B Allotypes MB19<sub>1</sub> and MB19<sub>2</sub> in Subjects with Coronary Artery Disease and Hypercholesterolemia  
**Stephen G. Young, Sandra J. Bertics, Timothy M. Scott, Brian W. Dubois, William F. Beltz, Linda K. Curtiss, and Joseph L. Witztum**
- 66 Population-Based Study of Glycosylated Hemoglobin, Lipids, and Lipoproteins in Nondiabetic Adults  
**Elizabeth Barrett-Connor, Michael H. Criqui, Joseph L. Witztum, Thomas Philippi, and Alfred Zettner**
- 71 Alteration of High Density Lipoprotein Subfractions of Nonhuman Primates Fed Fish-Oil Diets. Selective Lowering of HDL Subfractions of Intermediate Size and Density  
**John S. Parks, Joy A. Martin, Beverly L. Sonbert, and Bill C. Bullock**
- 80 Effect of Nicardipine and Verapamil on In Vitro Albumin Transport in Rabbit Thoracic Aorta  
**Alain Tedgui, Brigitte Chiron, Patrick Curmi, and Lucienne Juan**
- 88 Mass Transport, Atherogenesis, and Risk  
**Donald L. Fry**
- 101 **MEETING SUMMARY**  
Social Support and Cardiovascular Disease  
**Dennis M. Davidson and Sally A. Shumaker**
- 105A **NEWS FROM THE AMERICAN HEART ASSOCIATION**

# **Arteriosclerosis**

**Volume 7, Number 2, March/April 1987**

## **ARTICLES**

- 105** Hereditary Hyperlipidemia in the Rabbit Due to Overproduction of Lipoproteins.  
I. Biochemical Studies  
**Agnes La Ville, Peter R. Turner, R. Michael Pittilo, Scipione Martini, Christine B. Marenah, Peter M. Rowles, Gareth Morris, George A. Thomson, Neville Woolf, and Barry Lewis**
- 113** Hereditary Hyperlipidemia and Atherosclerosis in the Rabbit Due to Overproduction of Lipoproteins.  
II. Preliminary Report of Arterial Pathology  
**Alan M. Seddon, Neville Woolf, Agnes La Ville, R. Michael Pittilo, Peter M. Rowles, Peter R. Turner, and Barry Lewis**
- 125** Regression of Experimental Atherosclerotic Lesions in Rhesus Monkeys Consuming a High Saturated Fat Diet  
**Douglas A. Eggen, Jack P. Strong, William P. Newman, Gray T. Malcom, and Carlos Restrepo**
- 135** Decrease in Reactive Amino Groups during Oxidation or Endothelial Cell Modification of LDL.  
Correlation with Changes in Receptor-Mediated Catabolism  
**Urs P. Steinbrecher, Joseph P. Witztum, Sampath Parthasarathy, and Daniel Steinberg**
- 144** Hydroxymethylglutaryl-Coenzyme A Reductase Exhibits Graded Distribution in Normal and Mevinolin-Treated Ileum  
**Irwin I. Singer, Douglas W. Kawka, Susan E. McNally, Solomon Scott, Alfred W. Alberts, Julie S. Chen, and Jesse W. Huff**
- 152** Dipyridamole Decreases Platelet-Derived Growth Factor Levels in Human Serum  
**Kazuhiko Takehara, Gary R. Grotendorst, Richard Silver, and E. Carwile LeRoy**
- 159** Influence of Dietary Fats on Blood Coagulation and Prostaglandin Production in the Common Marmoset  
**Graeme H. McIntosh, Edward J. McMurchie, Michael James, Carolyn A. Lawson, Felicia H. Bulman, and John S. Charnock**
- 166** Mapping of Human Apolipoprotein B Antigenic Determinants  
**Yves L. Marcel, Thomas L. Innerarity, Charles Spilman, Robert W. Mahley, Andrew A. Protter, and Ross W. Milne**
- 176** Low Density Lipoprotein Metabolism in Human Macrophages Stimulated with Microbial or Microbial-Related Products  
**Maria F. Lopes-Virella, Richard L. Klein, and Henry C. Stevenson**
- 185** Accumulation of Cholesteryl Ester and Lipid Droplets in Macrophages after Uptake of Cholesterol-Rich Necrotic Products  
**Howard Wong and Sam Hashimoto**
- 191** Modification of Very Low Density Lipoproteins Leads to Macrophage Scavenger Receptor Uptake and Cholesteryl Ester Deposition  
**Theodore Mazzone, Cecilia Lopez, and Lynn Bergstraesser**
- 197** Body Mass, Blood Pressure, Glucose, and Lipids. Does Plasma Insulin Explain Their Relationships?  
**François Cambien, Jean-Michel Warnet, Evelyn Eschwege, Alain Jacqueson, Jacques Lucien Richard, and Gabriel Rosselin**

## **MEETING SUMMARY**

- 203** Familial Combined Hyperlipidemia Workshop  
**Scott M. Grundy, Alan Chait, and John D. Brunzell**

## **STATEMENT BY THE EUROPEAN ATHEROSCLEROSIS SOCIETY**

- 208** Strategy for the Prevention of Coronary Heart Disease

- 210A** **NEWS FROM THE AMERICAN HEART ASSOCIATION**

# Arteriosclerosis

Volume 7, Number 3, May/June 1987

## ARTICLES

- 211 Hyperapobetalipoproteinemia in a Kindred with Familial Combined Hyperlipidemia and Familial Hypercholesterolemia  
**Peter O. Kwiterovich, Jr., Sandra White, Trudy Forte, Paul S. Bachorik, Hazel Smith, and Alan Sniderman**
- 226 Body Fat Distribution as a Risk Factor for Coronary Artery Atherosclerosis in Female Cynomolgus Monkeys  
**Carol A. Shively, Thomas B. Clarkson, L. Cheryl Miller, and Kurt W. Weingand**
- 232 Increased Pulse Pressure in Patients with Arteriosclerosis Obliterans of the Lower Limbs  
**Michel E. Safar, Jean J. Totomoukouo, Risk A. Asmar, and Stéphane M. Laurent**
- 238 Oxygen Consumption in Aortic Tissue from Rabbits with Diet-Induced Atherosclerosis  
**Tom Björnheden and Göran Bondjers**
- 248 Gender and Baboon Aortic Steroid Hormone Receptors  
**Alan L. Lin, Roberto Gonzalez, Jr., Kenneth D. Carey, and Sydney A. Shain**
- 256 Plasma Exchange and Low Density Lipoprotein Apheresis in Watanabe Heritable Hyperlipidemic Rabbits  
**Masakatsu Kano, Junji Koizumi, Arvind Jadhav, and Gilbert R. Thompson**
- 262 High Density Lipoprotein Free Cholesterol and Other Lipids in Coronary Heart Disease  
**James S. Moshides**
- 267 Synthesis and Secretion of Plasma Cholesteryl Ester Transfer Protein by Human Hepatocarcinoma Cell Line, HepG2  
**Russell A. Faust and John J. Albers**
- 276 Micropipette Aspiration of Cultured Bovine Aortic Endothelial Cells Exposed to Shear Stress  
**Masaaki Sato, Murina J. Levesque, and Robert M. Nerem**
- 287 Distribution of von Willebrand Factor in Porcine Intima Varies with Blood Vessel Type and Location  
**Jacob H. Rand, Lina Badimon, Ronald E. Gordon, Ronald R. Uson, and Valentin Fuster**
- 292 Lack of Sex Differences in High Density Lipoproteins in Pima Indians. Studies of Obesity, Lipase Activities, and Steroid Hormones  
**Barbara V. Howard, Pan Xiaoren, Ingeborg Harper, Timo Kuusi, and Marja Riihita Taskinen**
- 301 Two DNA Restriction Fragment Length Polymorphisms Associated with Ag(t/z) and Ag(g/c) Antigenic Sites of Human Apolipoprotein B  
**Yuanhong Ma, Verne N. Schumaker, Rene Butler, and Robert S. Sparkes**
- 306 Vessel, Plaque, and Lumen Morphology after Transluminal Balloon Angioplasty  
Quantitative Study in Distended Human Arteries  
**Ross T. Lyon, Christopher K. Zarins, Chien-Tai Lu, Chien-Fang Yang, and Seymour Glagov**

## MEETING SUMMARY

- 315 Lipoprotein Heterogeneity Workshop  
**Kenneth Lippel, Sandra Gianturco, Alan Fogelman, Paul Nestel, Scott M. Grundy, Waldo Fisher, Alan Chait, John Albers, and Paul S. Roheim**
- 323 **Correction:** Michael E. Rosenfeld, Toyohiro Tsukada, Allen M. Gown, Russell Ross. Fatty Streak Initiation in Watanabe Heritable Hyperlipidemic and Comparably Hypercholesterolemic Fat-Fed Rabbits. *Arteriosclerosis* 7:9-23, January/February 1987
- 323 **Correction:** Michael E. Rosenfeld, Toyohiro Tsukada, Alan Chait, Edwin L. Bierman, Allen M. Gown, Russell Ross. Fatty Streak Expansion and Maturation in Watanabe Heritable Hyperlipidemic and Comparably Hypercholesterolemic Fat-Fed Rabbits. *Arteriosclerosis* 7:24-34, January/February 1987

- 324A NEWS FROM THE AMERICAN HEART ASSOCIATION

# Arteriosclerosis

Volume 7, Number 4, July/August 1987

## ARTICLES

- 325 Downregulation of High Density Lipoprotein Receptor Activity of Cultured Fibroblasts by Platelet-Derived Growth Factor  
**Mark J. Oppenheimer, John F. Oram, and Edwin L. Bierman**
- 333 Glycosaminoglycans and Apolipoproteins B and A-I in Human Aortas. Chemical and Immunological Analysis of Lesion-Free Aortas from Children and Adults  
**Seppo Ylä-Herttuala, Tiina Solakivi, Jorma Hirvonen, Hannu Laaksonen, Matti Möttönen, Erkki Pesonen, Jyrki Raekallio, Hans K. Åkerblom, and Tapio Nikkari**
- 341 High Density Lipoprotein Subfractions and Coronary Risk Factors in Normal Men  
**David Robinson, Gordon A.A. Ferns, Elizabeth A. Bevan, Joseph Stocks, Peter T. Williams, and David J. Galton**
- 347 Divergent Levels of High Density Lipoprotein Cholesterol and Apolipoprotein A-I in Children. The Bogalusa Heart Study  
**David S. Freedman, Sathanur R. Srinivasan, Larry S. Webber, and Gerald S. Berenson**
- 354 Correlates of High Density Lipoprotein Cholesterol and Apolipoprotein A-I Levels in Children. The Bogalusa Heart Study  
**David S. Freedman, Sathanur R. Srinivasan, Charles L. Shear, Larry S. Webber, Yu-Kun Chiang, and Gerald S. Berenson**
- 361 Accumulation of Native and Methylated Low Density Lipoproteins by Healing Rabbit Arterial Wall  
**Alan J. Fischman, Ann M. Lees, Robert S. Lees, Martha Barlai-Kovach, and H. William Strauss**
- 367 Enhanced Accumulation and Turnover of Esterified Cholesterol in Injured Rabbit Aorta  
**Dawn C. Schwenke and Donald B. Zilversmit**
- 378 Pregnancy-Associated Inhibition of Coronary Artery Atherosclerosis in Monkeys. Evidence of a Relationship with Endogenous Estrogen  
**Michael R. Adams, Jay R. Kaplan, Donald R. Koritnik, and Thomas B. Clarkson**
- 385 Aspirin Treatment Reduces Platelet Resistance to Deformation  
**Steven M. Burris, Clark M. Smith II, Gundu H.R. Rao, and James G. White**
- 389 Production of Plasminogen Activators and Inhibitor by Serially Propagated Endothelial Cells from Adult Human Blood Vessels  
**Victor W.M. van Hinsbergh, Doede Binnema, Mariëlle A. Scheffer, Erik D. Sprengers, Teake Kooistra, and Dingeman C. Rijken**
- 401 Plasma Lipoprotein Distribution of Apolipoprotein E in Familial Hypercholesterolemia  
**Joyce Corey Gibson, Ronald B. Goldberg, Ardon Rubinstein, Henry N. Ginsberg, W. Virgil Brown, Sheila Baker, Barry I. Joffe, and Harold C. Seftel**
- 408 Metabolism of Human Intermediate and Very Low Density Lipoprotein Subfractions from Normal and Dysbetalipoproteinemic Plasma. In Vivo Studies in the Rat  
**Thomas A. Musliner, Kathleen M. McVicker, Joe F. Iosefa, and Ronald M. Krauss**
- 421 Inheritance of High Density Lipoprotein and Lipoprotein Lipase and Hepatic Lipase Activity  
**Timo Kuusi, Y. Antero Kesäniemi, Matti Vuoristo, Tatu A. Miettinen, and Markku Koskenvuo**
- 426 Apolipoprotein A-I<sub>Milano</sub>. Correlation between High Density Lipoprotein Subclass Distribution and Triglyceridemia  
**Guido Franceschini, Laura Calabresi, Claudio Tosi, Cesare R. Sirtori, Claudia Fragiocomo, Giorgio Nosedà, Elaine Gong, Patricia Blanche, and Alex V. Nichols**
- MEETING SUMMARY  
436 Ninth Annual European Lipoprotein Conference  
**Ulrike Beisiegel, David Bowyer, Sebastiano Calandra, Richard Deckelbaum, Peter Nilsson-Ehle, Maryvonne Rosseneu, and James Shepherd**
- 440 Correction: Parks JS, Martin JA, Sonbert BL, Bullock BC  
Alteration of High Density Lipoprotein Subfractions of Nonhuman Primates Fed Fish-Oil Diets. Selective Lowering of HDL Subfractions of Intermediate Size and Density. *Arteriosclerosis* 7:71-79, January/February 1987
- 441A NEWS FROM THE AMERICAN HEART ASSOCIATION

# **Arteriosclerosis**

**Volume 7, Number 5, September/October 1987**

## **ARTICLES**

- 441** Fish Oil Inhibits Development of Atherosclerosis in Rhesus Monkeys  
**Harry R. Davis, Robert T. Bridenstine, Dragoslava Vesselinovitch, and Robert W. Wissler**
- 450** Unsaturated Fatty Acids Enhance Low Density Lipoprotein Uptake and Degradation by Peripheral Blood Mononuclear Cells  
**Joseph Loscalzo, Jane Freedman, M. Audrey Rudd, Irina Barsky-Vasserman, and Douglas E. Vaughan**
- 456** Deficiency of Plasma Protein S, Protein C, or Antithrombin III and Arterial Thrombosis  
**Barry S. Collier, John Owen, Jolyon Jesty, David Horowitz, Milton J. Reitman, Joel Spear, Timothy Yeh, and Phillip C. Comp**
- 463** Regulation of Vascular Smooth Muscle Cell Growth by Endothelial-Synthesized Extracellular Matrices  
**Ira M. Herman and John J. Castellot, Jr.**
- 470** Accelerated Rates of Collagen Synthesis in Atherosclerotic Arteries Quantified in Vivo  
**William P. Opsahl, Dennis J. DeLuca, and L. Allen Ehrhart**
- 477** Physiological Markers of Smoking and Their Relation to Coronary Heart Disease. The Lipid Research Clinics Coronary Primary Prevention Trial  
**James D. Knoke, Donald B. Hunninghake, and Gerardo Heiss**
- 483** Effect of Gender, Age, and Lipid Status on Low Density Lipoprotein Subfraction Distribution. Results from the Framingham Offspring Study  
**Judith R. McNamara, Hannia Campos, Jose M. Ordovas, Jeffrey Peterson, Peter W.F. Wilson, and Ernst J. Schaefer**

## **ABSTRACTS**

- 491A** Abstracts Submitted to the 41st Annual Meeting, Council on Arteriosclerosis, American Society for the Study of Arteriosclerosis, Anaheim, California, November 1987

**550A** Authors Index to Abstracts

**564A** NEWS FROM THE AMERICAN HEART ASSOCIATION

# Arteriosclerosis

Volume 7, Number 6, November/December 1987

## ARTICLES

- 565 Influx and Cellular Degradation of Low Density Lipoproteins in Rabbit Aorta Determined in an In Vitro Perfusion System  
**Olov Wiklund, Tom Björnheden, Sven-Olof Olofsson, and Göran Bondjers**
- 572 Cigarette Smoking and Hypertension. Factors Independently Associated with Blood Hyperviscosity and Arterial Rigidity  
**Jaime Levenson, Alain C. Simon, François A. Cambien, and Christine Beretti**
- 578 Effect of Verapamil on Cholesteryl Ester Hydrolysis and Reesterification in Macrophages  
**Oiga Stein and Yechezkiel Stein**
- 585 Long-Term Effects of Verapamil on Aortic Smooth Muscle Cells Cultured in the Presence of Hypercholesterolemic Serum  
**Oiga Stein, Gideon Halperin, and Yechezkiel Stein**
- 593 Substratum-Bound Elastin Peptide Inhibits Aortic Smooth Muscle Cell Migration in Vitro  
**Toshiro Ooyama, Katsunori Fukuda, Hiromi Oda, Hiroaki Nakamura, and Yukiko Hikita**
- 599 Effect of Chronic Low Dose Aspirin on Platelet and Vascular Eicosanoid Metabolism in Nonhuman Primates (*Macaca fascicularis*)  
**Joseph A. Jakubowski, Harry L. Bush Jr., Raymond Vaillancourt, and Daniel Deykin**
- 605 Interleukin-1 Inhibits the Synthesis of von Willebrand Factor in Endothelial Cells, Which Results in a Decreased Reactivity of Their Matrix toward Platelets  
**Philip G. de Groot, Cornelius L. Verweij, Peter P. Nawroth, Hetty C. de Boer, David M. Stern, and Jan J. Sixma**
- 612 Total Cholesterol and High Density Lipoprotein Cholesterol Levels in Populations Differing in Fat and Carbohydrate Intake  
**Jan T. Knuiman, Clive E. West, Martijn B. Katan, and Joseph G.A.J. Hautvast**
- 620 Insulin Resistance and Impaired Glucose Tolerance in the Atherosclerosis-Prone LA/N Corpulent Rat  
**James C. Russell, Sunil K. Ahuja, V. Manickavel, Raymond V. Rajotte, and Roger M. Amy**
- 627 Modulation of Glycosaminoglycan Production and Antithrombin III Binding by Cultured Aortic Endothelial Cells Treated with 4-Methylumbelliferyl- $\beta$ -D-Xyloside  
**Kazuyuki Shimada and Toshio Ozawa**
- 637 Epidemiology of Aortic Aneurysms: I. Mortality Trends in the United States, 1951 to 1981  
**David E. Lillienfeld, Paul D. Gunderson, J. Michael Sprafka, and Carol Vargas**
- 644 **MEETING SUMMARY**  
Workshop on Monounsaturated Fatty Acids  
**Scott M. Grundy and Andrea Bonanome**
- 649 **SPECIAL REPORT**  
New Guidelines for the Treatment of High Blood Cholesterol in Adults from the National Cholesterol Education Program. From Controversy to Consensus  
**James J. Cleeman and Claude Lenfant**
- 651A **NEWS FROM THE AMERICAN HEART ASSOCIATION**
- 651 **INDEX TO VOLUME 7**



